

VERSION WITH MARKINGS TO SHOW CHANGES MADEIN THE CLAIMS:

1 1. (Amended) A system for treating combustion exhaust gas,
2 which system comprising: a catalyst effective to promote oxidation of at least NO
3 to NO₂; a filter downstream of the oxidation catalyst, which filter being effective to
4 collect soot and hold it for combustion reaction with the NO₂ in the gas; a NO_x
5 absorber downstream of the filter, which NO_x absorber is charged with solid
6 adsorbent; means for introducing intermittently a regenerant of the absorber, which
7 means being effective to inject a NO_x-specific reactant upstream of the absorber;
8 and[, associated with and/or downstream of the absorber,] a catalyst system
9 effective to promote reactions of hydrocarbons (HC) and CO with O₂ to H₂O and
10 CO₂ and to treat NO_x to N₂, wherein said catalyst system is at least one of: (1)
11 associated with the absorber; or (2) located downstream of the absorber.

1 4. (Amended) A system according to claim 1, [2 or 3,] wherein
2 the NO_x absorbent comprises at least one of: (a) compounds of alkali metals,
3 alkaline earth [metal] metals, rare earth metals and transition metals or a mixed
4 oxide of any two or more thereof; [and/or] and (b) zeolites, carbons and/or high
5 surface area oxides.

1 5. (Amended) A system according to claim 4, wherein the
2 mixed oxide [includes] is selected from the group consisting of Ba-Cu-O[,] and
3 MnO₂-BaCuO₂[, optionally including CeO₂, Y-Ba-Cu-O or Y-Sr-Co-O].

1 6. (Amended) A system according to [any of claims] claim 1 [to
2 5], wherein the catalyst system comprises at least one of vanadia/titania [and/or]
3 and one or more platinum group metal.

1 7. (Amended) A system according to [any of claims] claim 1 [to
2 6], wherein the injection means is arranged to inject the reactant upstream of the
3 filter.

1 9. (Amended) A system according to [any of claims] claim 1 [to
2 6], wherein the injection means is arranged to inject the reactant downstream of the
3 filter.

1 10. (Amended) A system according to [any preceding] claim 1,
2 wherein the filter is catalysed.

1 11. (Amended) A system according to [any preceding] claim 1,
2 wherein the injection means is for injecting ammonia, hydrazine, urea or aqueous
3 urea solution.

1 12. (Amended) A system according to [any preceding] claim 1,
2 further including sensors, indicators, computers and actuators, effective to maintain
3 operation within desired conditions.

1 14. (Amended) A diesel engine including a system according to
2 [any preceding] claim 1.

1 15. (Amended) An engine according to claim [8] 14, which is a
2 turbo-charged direct injection engine.

1 16. (Amended) A process for treating combustion exhaust gas
2 containing CO, hydrocarbons (HC), NO, O₂, soot and non-reactive gases, [which
3 process comprises] comprising the steps of: (i) catalysing oxidation of NO to NO₂;
4 (ii) collecting soot on a filter; (iii) combusting the collected soot by reaction with
5 NO₂ [and possibly also O₂ left over after step (i)]; (iv) removing NO_x from the
6 product of step (iii) by contacting a regenerable NO_x absorbent with gas containing
7 [it] NO_x; (v) regenerating the absorbent intermittently by injecting a NO_x-specific
8 reactant upstream of the absorbent; and (vi) at least during step (v), contacting a
9 catalyst system effective to promote reactions of HC and CO with O₂ to H₂O and
10 CO₂ and to react NO_x to N₂ with the gas [the] product of step (v).

1 18. (Amended) A process according to claim 16 [or 17], wherein
2 the NO_x-specific reactant is ammonia or hydrazine and is injected as such [and/or]
3 or as a precursor compound decomposable thereto *in situ*.

1 19. (Amended) A process according to claim [16, 17 or] 18,
2 wherein the precursor is urea or aqueous urea solution.

1 20. (Amended) A process according to claim 16[, 17, 18 or 19],
2 wherein the exhaust gas is the product of combustion of fuel containing less than 50
3 ppm w/w of sulphur.

- 1 21. (Amended) A process according to [any of claims] claim 16
- 2 [to 20], operated in compliance with the European Stage IV emission legislation.

Claims 22 and 23 have been added.

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